Die Mitteldevon-Flora von Lindlar (Rheinland)
5. Gesamtübersicht

The Middle Devonian flora of Lindlar (Rhineland)
5. Overview

von

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Mit 8 Tafeln und 26 Abbildungen sowie 1 Beilage

**Summary**

The fossil rich locality Lindlar (Lower to Middle Eifelian – Mühlenberg-Sandstone) yielded remains of the following fossil plants:

*Thurisophytion (Asteroxylon) elberfeldense*

*Ledercaea* complexa

*?Protobarnaphytion lindlarensis* nov. comb. (= *Lycopodites lindlarensis* Schweitzer 1974)

* Duisbergia mirabilis*

*Hyenia elegans*

*Calamophyton primaevum*

*Rellinia* sp. (*Protopteridium thomsonii* sensu Kräusel & Weyland 1938)

*Weylandia rhenana*

*Duisbergia mirabilis, Hyenia elegans* and *Calamophyton primaevum* were monographically revised by Schweitzer (1966, 1972 and 1973), the other species were only provisionally described (*Weylandia rhenana, Lycopodites lindlarensis (= ? Protobarnaphytion lindlarensis* nov. comb.)) or mentioned (*Thurisophytion elberfeldense, Ledercaea* complexa and *Rellinia* sp.). In this paper *H. elegans* and *C. primaevum* will be discussed in detail again, because Fairon-Demaret & Berry (2000) considered them to be conspecific and regarded *H. elegans* to be the younger axes of *C. primaevum*. Here it is proved that this supposition is not correct. Furthermore, *Weylandia rhenana* and *?Protobarnaphytion lindlarensis* nov. comb. will be discussed in depth.

Kräusel & Weyland 1926 described *H. elegans* and *C. primaevum* in the same paper, but *H. elegans* before *C. primaevum*, thus in revised order as mentioned by Fairon-Demaret & Berry. This does not raise any nomenclatorial problems as both species are fundamentally different and belong to two genera.

Kräusel & Weyland reconstructed *H. elegans* as a plant with a creeping rhizome and *C. primaevum* as an upright growing plant. Their results are almost completely confirmed by Schweitzer. Only the sporangiophores of *C. primaevum* were not totally duged by them and thus incompletely described.

The rhizomes of *H. elegans* have a width of up to 4 cm. From these, up to 50 cm high, spirally arranged and upwards curving aerial stems arise ending in a crown built of straight branches arising at acute angles. The sterile lateral organs arising from this branch system are similar to those of *C. primaevum* but usually distinctly shorter. The sporangiophores show a simple morphology. The main axis forks terminally only once into two short, backwards curving branches bearing several sporangia at their apex (Text-fig. 14).

In contrast, *C. primaevum* is an upright growing plant whose stem at least reached a width of 13 cm. The height of the plant can be estimated 2.5-3 m. The stout branches form three-dimensional fronds of at least 60 cm length. The final branching is hand-to lyre-shaped. The sporangiophores are more complexly built than in *H. elegans*. The main axis forks into 2 longer axes bearing in different heights each time two sporangia on backwards curved stalks (Text-fig. 15).

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